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Manual Explanation

- Information not described in this manual may be displayed in some cases. Make sure to read the text file attached to the disc.
- If there are any variations between the explanation in this manual and the actual application method, priority is given to the actual application method.
- This manual is written for people who have a basic knowledge of how to use a computer. If there are no special instructions, perform the same operation as a normal computer operation.
- Windows XP (collective term of Home Edition, Professional and Professional x64 Edition) in this book means Microsoft® Windows® XP operating system.

FireCoder

User Manual

May 8, 2006

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Items to Check

Notice to Owner/User

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☐ DANGER

The following conditions indicate the potential for serious bodily injury or loss of life.

· Health precautions

In rare cases, flashing lights or stimulation from the bright light of a computer display or TV monitor may trigger temporary epileptic seizures or loss of consciousness. It is believed that even individuals whom have never experienced such symptoms may be susceptible. If you or close relatives have experienced any of these symptoms, consult a doctor before using this product.

· Do not use in environments requiring a high degree of reliability and safety

This product is not to be used in medical devices or life support systems. The characteristics of this product are not suited for use with such systems.

· Protect against static electricity

An electrostatic discharge may damage components of this product. Do not directly touch any of the connectors or component surfaces.
Static electricity can be generated on clothing and on people. Before handling the product, discharge any static electricity from your body by touching a grounded metal surface.

· Do not disassemble

Do not remove the cover or modify the Product. Fire, electric shock or malfunction may result. For internal inspection or repair, please contact your system integrator or Canopus directly.

☐ CAUTION

The following conditions indicate the potential for bodily harm, damage to hardware or loss of data.

· Do not setup in areas subject to heat

Do not setup in an area exposed to direct sunlight or near a heating apparatus. The heat can accumulate, causing burns, fire or damage. Also, the unit may become deformed or change color.

· Only setup using the prescribed method

Do not setup in a manner other than prescribed. Do not use while wrapped in cloth or plastic. Heat can accumulate, causing burns, fire or damage.

☐ FCC Notice

This equipment has been tested and found to comply with the limits for the class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and if not installed, and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on,the user is encouraged to try to minimize the interference by one or more of the following measures:

· Reorient or relocate the receiving antenna.
· Increase the separation between the equipment and receiver.
· Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.
This equipment has been certified to comply with the limits for a class B computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment.
Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1)This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

☐ Declaration of Conformity

According to FCC Part 15
Responsible Party Name: Canopus Co.,Ltd.
Address: 1-2-2 Murotani Nishi-ku, Kobe-city Hyogo 651-2241 Japan
Telephone: +81-78-992-5846
Declares that product Model: Encoder Board
Complies with Part 15 of the FCC Rules.

Package Contents

- ☐ Encoder Board
- ☐ CD-ROM
- ☐ Manual

  FireCoder User Manual (This book)

  · Describes the settings and the plug-ins.

  UltraCoder User Manual

  · Explains basic operation of UltraCoder.

  MPEGCraft 3 DVD User Manual
- ☐ User Registration Card and Duplicate
- ☐ Serial Number

  The Serial Number is shown on the sticker in the lower right of the envelope containing CD-ROM.

Reconfirming Operation Environment

Before using this product, check the operation environment.

PC

Note that this software may not work properly even if all the conditions stated below are met, since the PC itself may have some compatibility issues. Therefore, there is no guarantee that the software will work on all PCs compliant with the following conditions.

■ Minimum System Requirements

CPU	: Intel Pentium 4/M/D, Celeron D, AMD Athlon64/ Athlon64 X2 etc. (Recommend Pentium D or Dual Core Environment for HDV edit)
Slot	: Empty PCI Express slot x 1 required
CD-ROM	: Required for installing software
Memory	: 256MB or more (512MB or more is recommended.)
Hard disk	: 200MB free space required for installing software
DirectX	: DirectX 9.0c or later
Display	: Can display 800x600/True Color or higher, and support DirectX 9.0c
Sound System	: Can operate with WDM driver and support 48kHz output
OS	: Microsoft Windows XP Home Edition/Professional : Microsoft Windows XP Professional x64 Edition
Internet connection environment	: Software updates.

* Therefore, there is no guarantee that the software will work on all PCs compliant with the above conditions.
* This product is licensed for use on 1 PC.

■ Functional Operation Environment

Playing/Creating DVD Function: DVD drive is needed to play DVDs, DVD burner and media are needed to create DVDs.

Installing

Installing the Encoder Board

Before Installing the Encoder Board

Before installing the Encoder Board, be sure that your work area is dust-free and dry. Prepare a phillips type screwdriver, and an empty box for removed screws in advance.

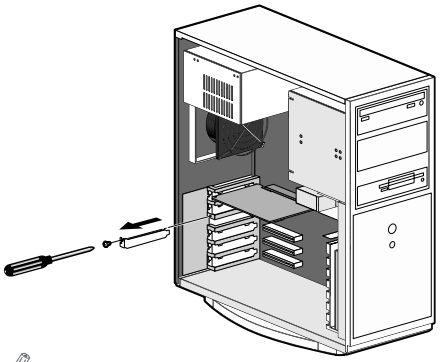
1 **Switch off your PC.**

2 **Remove cables (including power).**

3 **Remove PC cover.**

* On how to remove covers, see the PC's manual.

4 **Remove PCI backplane of PCI Express x 1 slot in which Encoder Board (PCI Express standard: PCI Express x1) is to be installed.**



Tip

The board is designed to fit a standard PCI express slot. If the board does not seem to fit when trying to insert, do not try to push in with excessive force. In this case, try other PCI express slots, or contact your PC or motherboard manufacturer.

Check!

See the instruction manual for your PC (motherboard) to confirm the PCI slot type.

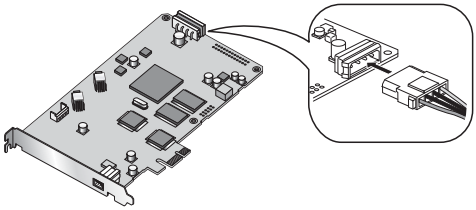
info

Be careful when handling the PCI Express x 1 terminal of Encoder Board. It may bend if applying excessive pressure.

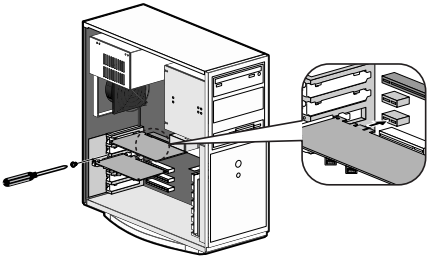
Tip

· The removed slot cover will not be used. Do not lose it, however.
· If PCI Express x 1 slot is not available, use empty PCI Express x4 or x8 slot.

5 **Connect the power cable to the Encoder Board.**



6 **Firmly insert the Encoder board into the PCI Express slot and fix the bracket temporarily.**



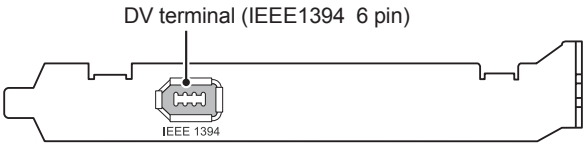
7 **Connect the power cable connected to the Encoder Board with the power cable on the PC.**

8 **Check whole connection and fasten the mounting screw of the bracket.**

9 **Re-attach PC cover.**

10 **Re-attach cables (including power).**

Panel description



Installing Driver and Software

Notes before installation

- When you start up the PC after setting up the board, [Found New Hardware Wizard] appears. Select [Cancel] here.
- Before starting installation, close all the other applications that may be running including any memory-resident software.
- In order to carry out the installation procedure, the computer must be logged in by a user with administrator privileges.
- If you are using EDIUS 3 (Pro or Broadcast), Adobe Premiere 6.5 and Adobe Premiere Pro 1.x, please install these prior to Encoder Board installation. If you install these products after installing Encoder Board, please re-install Encoder Board in order to install the export plugins required.

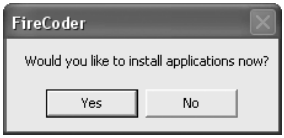
1 **Place the installation CD-ROM in the drive.**

> The setup confirmation dialog box appears.

Tip

If the CD-ROM does not automatically start up, use an application such as Explorer to select the drive you set the CD-ROM in and double click on [SetupMgr.exe].

2 Click [Yes].



> The [SetupManager] dialog box appears.

> The [Hardware Installation] dialog box appears.

3 Click the [Continue Anyway] button.

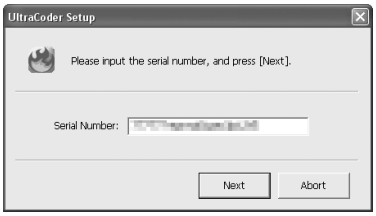
> The [Setup] dialog box appears.

Hardware Installation
The software you are installing for this hardware:
Canopus Hardware MPEG Engine
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

info

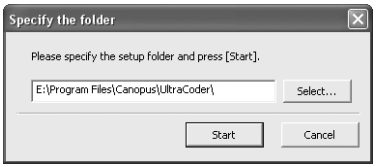
- Do not remove the installation CD-ROM from the drive until the installation finishes completely.
- Do not close the [SetupManager] dialog box while installing.

4 **Enter the serial number and click [Next].**

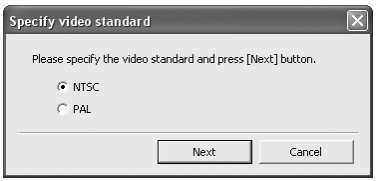


5 **Select the installation destination folder and click [Start].**

> The [UltraCoder Installer] dialog box appears.

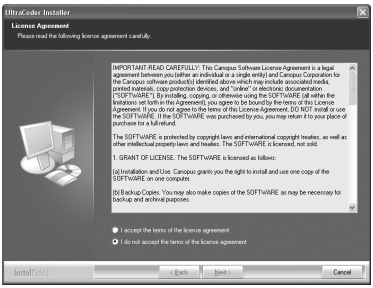


6 **Select the video standard and click [Next].**



7 **Carefully read the License Agreement displayed. If you accept the terms, select [I accept the terms of the license agreement] and click [Next].**

> Installation for UltraCoder starts.


UltraCoder Installer
License Agreement
Please read the following license agreement carefully.
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Cancel

Tip

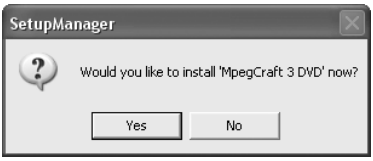
The Serial Number is shown on the sticker in the lower right of the envelope containing CD-ROM.

info

If you cannot accept the terms, click [Cancel]. If you do not agree to the license agreement, you cannot use this product.

8 **Click [Yes].**

> The [MPEGCraft 3 DVD InstallShield Wizard] dialog box appears.



9 **Click [Next].**

MPEGCraft 3 DVD - InstallShield Wizard
Welcome to the InstallShield Wizard for MPEGCraft 3 DVD
The InstallShield® Wizard will install MPEGCraft 3 DVD on your computer. To continue, click Next.
< Back
Next >
Cancel

10 **Carefully read the License Agreement displayed. If you accept the terms, select [I accept the terms of the license agreement] and click [Next].**

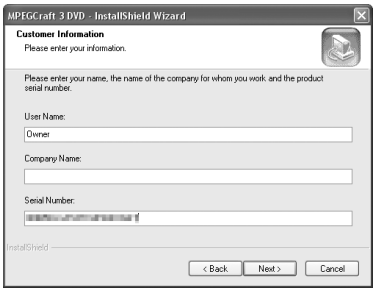
> Installation for MPEGCraft 3 DVD starts.

MPEGCraft 3 DVD - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
Canopus Software Site License Agreement
IMPORTANT-READ CAREFULLY:
This Software Site License Agreement ("AGREEMENT") is a legal agreement between You (either an individual or a single entity) and Canopus Co., Ltd. ("Canopus") for the Canopus software product provided to You along with this AGREEMENT, which includes computer software and may include associated media, printed materials, "online" or electronic documentation, and copy protection technology (collectively "SOFTWARE"). By installing, copying, downloading, or otherwise using the SOFTWARE, You agree to be bound by the terms of this AGREEMENT. The SOFTWARE is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The SOFTWARE is licensed, not sold.
I accept the terms of the license agreement
I do not accept the terms of the license agreement
InstallShield
< Back
Next >
Cancel

info

If you cannot accept the terms, click [Cancel]. If you do not agree to the license agreement, you cannot use this product.

11 Enter [User Name], [Company Name], and [Serial Number]. Then click [Next].



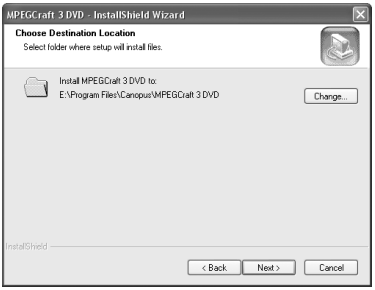
info

Be sure to enter the serial number.

Tip

The Serial Number is shown on the sticker in the lower right of the envelope containing CD-ROM.

12 Click [Next].



Tip

To change the installation destination folder, click [Change].

13 Click [Next].

MPEGCraft 3 DVD - InstallShield Wizard
Select Program Folder
Please select a program folder.
Setup will add program icons to the Program Folder listed below. You may type a new folder name, or select one from the existing folders list. Click Next to continue.
Program Folders:
Canopus\MPEGCraft 3 DVD
Existing Folders:
Accessories
Administrative Tools
DivX
Games
Startup
InstallShield
< Back
Next >
Cancel

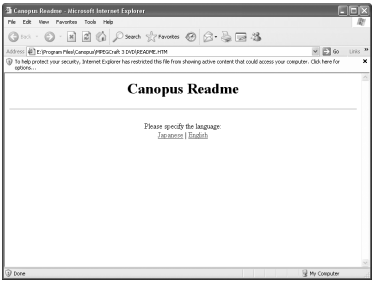
Tip

To change the program folder, enter the new folder name or select the desired folder.

14 Click [Next].

15 Confirm that the software name for which you want to create a shortcut is checked, and click [Next].

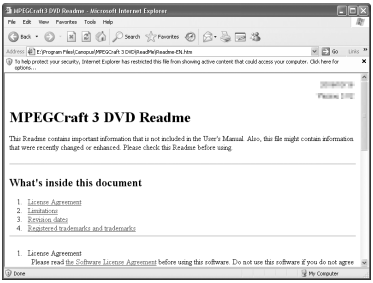
16 Click [English].



Tip

The "Readme" file may contain information that is not covered in this manual. Be sure to place a check mark next to [Readme] for installation and read the contents.

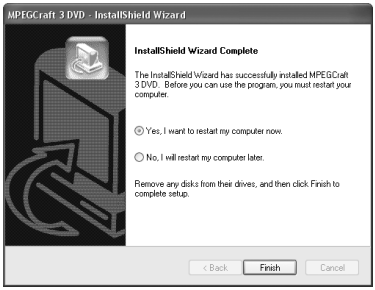
17 Confirm the content of the Readme file and click [×].



info

If you do not, you will not be eligible for receiving user support.

18 Select [Yes, I want to restart my computer now.], and click [Finish].


MPEGCraft 3 DVD - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed MPEGCraft 3 DVD. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

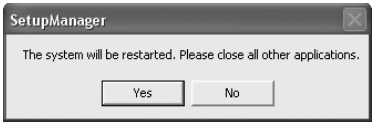
info

Reboot PC after installation.

19 Click [OK].

When the following dialog box appears, click [Yes].

> Reboot PC.



■ Software

· For more details on how to use "UltraCoder", see the "UltraCoder User Manual".

· For more details on how to use "MPEGCraft 3 DVD", see the "MPEGCraft 3 DVD User Manual".

Uninstalling Software

Notes before uninstalling

· Before uninstalling, close all the other applications that may be running including any memory-resident software.

· In order to uninstall, you must log in as a user with administrator privileges.

1 **Select [Control Panel] from the [start] menu and click [Add or Remove Programs].**

2 **Select [UltraCoder] and click [Change/Remove].**

3 **Click [Yes].**

> The uninstallation process starts.

4 **Click [Finish].**

> Uninstallation is completed.

Tip

When uninstalling "MPEGCraft 3 DVD", select [MPEGCraft 3 DVD] and click [Change/Remove].

info

Depending on the PC environment, you may need to restart the PC.

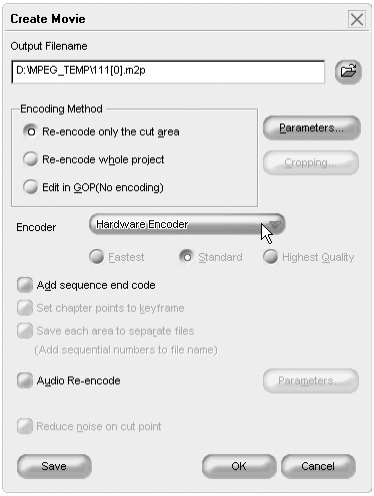
Selecting Hardware Encoding

For MPEGCraft 3 DVD

In order to utilize the hardware encoder to export from MPEGCraft 3 DVD, please follow the procedure below.

1 **Click [Save movie].**

2 **Select [Hardware Encoder] from the encoder drop down box.**



3 **Click [OK].**

Check!

For more details on how to use "MPEGCraft 3 DVD" and its functions, see the "MPEGCraft 3 DVD User Manual".

☐ UltraCoder

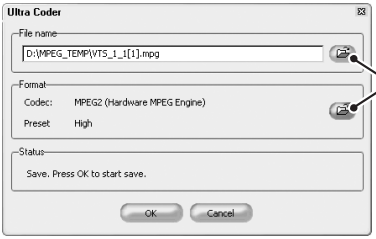
In order to utilize the hardware encoder within UltraCoder, please follow the procedure below.

1 **Click [Save Movie by UltraCoder] in the [File] menu.**

> The [Ultra Coder] dialog box appears.

MPEGCraft - Untitled
File Edit Action Tool View Help
Add Movie Ctrl + A
Delete Movie
Delete All Movies
Save Movie... Ctrl + W
Save Movie by UltraCoder...
Save Picture... Ctrl + T
New File Ctrl + N
Open File... Ctrl + O
Save Project File Ctrl + S
Save Project As... Ctrl + Shift + S
Add Project...
Save Pattern File...
Load Pattern File...
Add To Batch list Ctrl + B
Batch Encode...
Recent Movie
Recent Project
Exit

2 **Click the Browse button and set [File name] and [Format].**



3 **Click [OK].**

> File conversion starts.

Check!

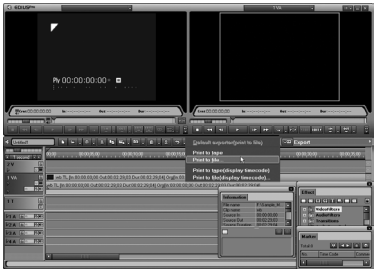
For more details on how to use "UltraCoder" and its functions, see the "UltraCoder User Manual".

For EDIUS Pro 3

In order to utilize the hardware encoder for export from EDIUS Pro 3, please follow the procedure below.

1 **Click [Export] and select [Print to file].**

> The [Select Exporter Plug-in] dialog box is displayed.

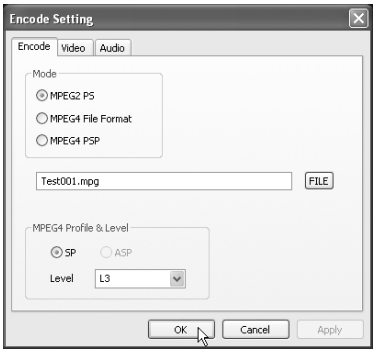


2 **Select [Canopus Hardware MPEG Engine Exporter] and click [OK].**

> The [Encode Setting] dialog box appears.

3 **Set the output file in the [Encode Setting] dialog box. Click [OK].**

> The [Encode Setting] dialog box closes.



4 **Click [OK].**

> File conversion starts. A warning message will appear if the destination file already exists. When the progress bar disappears, conversion is completed.

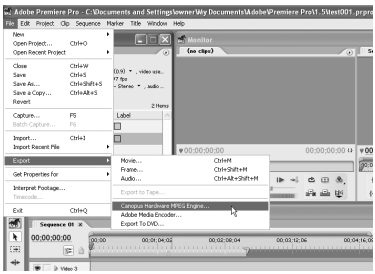
v

For Adobe Premiere Pro

In order to utilize the hardware encoder for export from Adobe Premiere Pro, please follow the procedure below. This example is based on Adobe Premiere Pro 1.5.

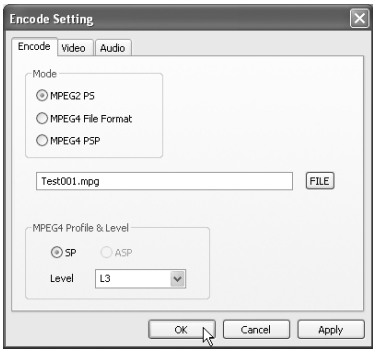
1 **Select [Export] from the [File] menu and click [Canopus Hardware MPEG Engine].**

> The [Encode Setting] dialog box appears.



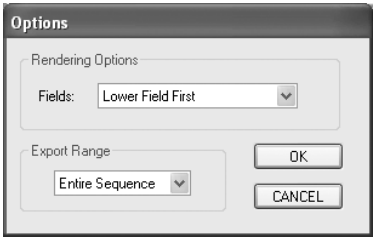
2 **Set the output file in the [Encode Setting] dialog box. Click [OK].**

> The [Options] dialog box appears.

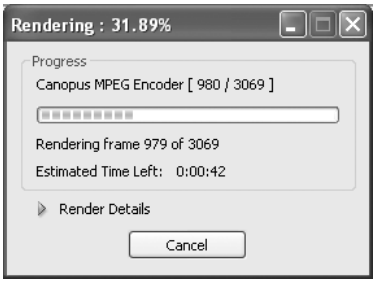


3 **Customize the settings, if required, and click [OK].**

> File conversion starts. The dialog box will appear when the conversion is completed.



v



4 **Click [OK].**

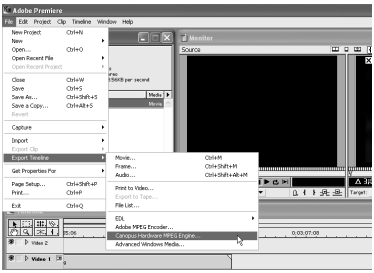
> File conversion is completed.

For Adobe Premiere 6.5

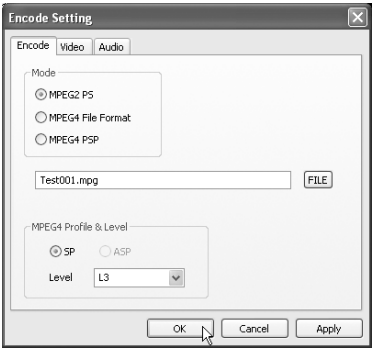
In order to utilize the hardware encoder for export from Adobe Premiere 6.5, please follow the procedure below.

1 **Select [Export Timeline] from the [File] menu and click [Canopus Hardware MPEG Engine].**

> The [Encode Setting] dialog box will appear.

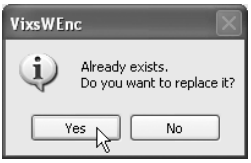


2 **Set the output file in the [Encode Setting] dialog box. Click [OK].**

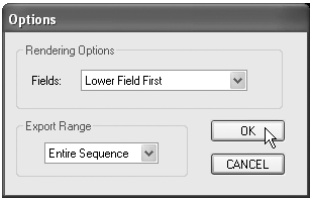


3 **Click [Yes].**

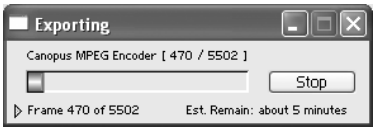
> A warning message will appear if the destination file already exists. The [Options] dialog box will appear.



4 **Customize the settings, if required, and click [OK].**



> File conversion starts. The dialog box will appear when the conversion is completed.



5 **Click [OK].**

> File conversion is completed.

Specifications

■ Hardware Specifications

I/O terminal		HDV/DV input (IEEE1394)	6 pin x 1 4 pin x 2 (for internal connection)
MPEG Encoding Part	MPEG2	Resolution	720x480, 640x480, 480x480, 352x480, 352x240
		Video Bit Rate	MPEG2 0.5 to 15Mbps(VBR/CBR)/25Mbps(I Frame only) * The upper limit of VBR bit rate is up to one and a half times as high as the setting value.
		Number of Pictures	0 to 5
		Cycle	1 to 4
		Frame Rate	29.97fps
		Audio Bit Rate	96 to 384kbps
		Sampling Frequency	48kHz 44.1kHz 32kHz
		Audio Compression	MPEG1 Layer2
		Multiplex	MPEG2 Program Stream
	MPEG4	Resolution	640x480, 480x480, 320x480, 320x240
		Video Bit Rate	MPEG4 0.1 to 3Mbps(VBR/CBR)
		Frame rate	29.97fps / 14.985fps
		Audio Bit Rate	32, 48, 64, 96, 128, 144, 182, 224, 256, 288kHz
		Sampling Frequency	48kHz 24kHz
		Audio Compression	AAC
		Multiplex	MPEG4 File Format ISO/IEC 14496-14 MEMORY STICK Standard Video File Format
Consumption Current (Max)			+3.3V 1.8A, +12V 150mA
Available Temperature Range			5 to 45˚C
Available Resources		Interrupt	3
		Memory Space	Area for 2M bytes
Size/Weight			Approx. 163(W) x 112(H)mm x 16mm(D) * Excluding projections Approx. 140g

■ Attached Software Specifications

<table>
<tr><th colspan="2">MPEGCraft 3 DVD</th></tr>
<tr><td>Input Format</td><td>MPEG1 (System Stream)
MPEG2 (Program Stream, Transport Stream)
HDV(1080i, 720p)
VOB
* Elementary Stream (video and audio are not multiplexed) is not available.</td></tr>
<tr><td>Output Format</td><td>MPEG1
MPEG2 (Program Stream, Transport Stream)
HDV(1080i)
VOB</td></tr>
<tr><td>Output Audio Format</td><td>MPEG1 Layer 2
Dolby Digital (conversion from stereo to 5.1ch surround is not available)</td></tr>
<tr><td>Supported Media</td><td>
<table>
<tr><th rowspan="2"></th><th colspan="2">Writing format</th><th colspan="2">Importing format</th></tr>
<tr><th>DVD-Video</th><th>DVD-VR</th><th>DVD-Video</th><th>DVD-VR</th></tr>
<tr><td>DVD-R</td><td>○</td><td>–</td><td>○</td><td>–</td></tr>
<tr><td>DVD-RW</td><td>○</td><td>○</td><td>○</td><td>○</td></tr>
<tr><td>DVD-RAM</td><td>–</td><td>○</td><td>–</td><td>○</td></tr>
<tr><td>DVD+R</td><td>○</td><td>–</td><td>○</td><td>–</td></tr>
<tr><td>DVD+RW</td><td>○</td><td>–</td><td>○</td><td>–</td></tr>
<tr><td>DVD-R DL</td><td>○</td><td>–</td><td>○</td><td>–</td></tr>
<tr><td>DVD+R DL</td><td>○</td><td>–</td><td>○</td><td>–</td></tr>
</table>
</td></tr>
<tr><td>Supported Output Plug-in</td><td>UltraCoder</td></tr>
<tr><td>Supported Hardware Encoder</td><td>Encoder Board</td></tr>
</table>

EDIUS Plug-in (File output by hardware encoding is available)	
Supported products	EDIUS Pro 3(Ver.3.61 or later)

Adobe Premiere Plug-in (File output by hardware encoding is available)	
Supported products	Adobe Premiere 6.5, Adobe Premiere Pro 1.0, Adobe Premiere Pro 1.5